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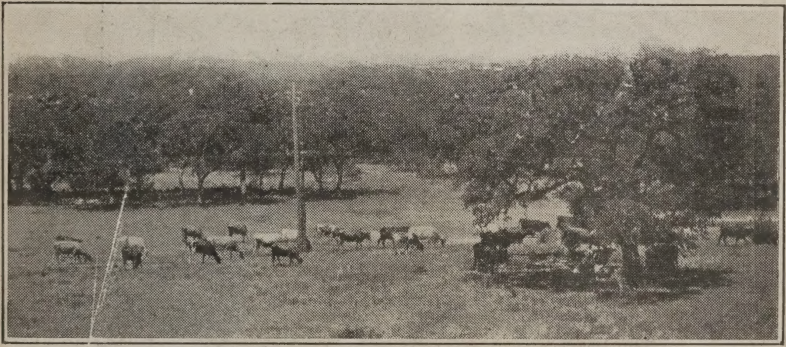
The
St. Edward's College Bulletin

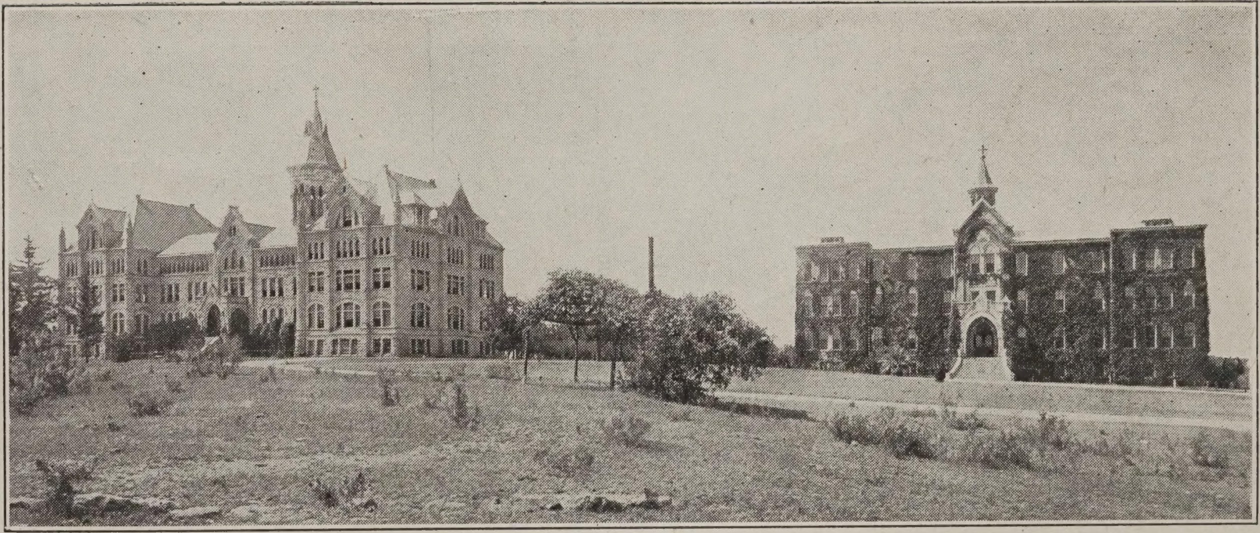
VOL. 1 JULY No. 1



Department of Agriculture, Applied Electricity and Mechanics

1917-1918

AUSTIN, TEXAS



Main Building Dormitory Building

St. Edward's College, Austin, Texas

Emiel DeWulf, C. S. C.,

President St. Edward's College,

Austin, Texas

BULLETIN OF

ST. EDWARD'S COLLEGE

Department of Agriculture, Applied
Electricity, and Mechanics

AUSTIN, TEXAS

E. L. STECK, AUSTIN

GENERAL INFORMATION

St. Edward's College is a boarding school for boys and young men. The school was founded, and is conducted, by members of the Congregation of the Holy Cross, whose parent house is at the University of Notre Dame, Indiana. St. Edward's College was opened in 1881, and in 1885 was chartered to confer the usual degrees of Arts, Science, and Letters.

Location

The College is located about one mile south of Austin, faces the State Capitol, and commands a fine view of the city and the beautiful valley of the Colorado. The school is situated in the centre of the health-belt of Texas, far enough removed from the distracting influences of the city, yet not too remote to secure its conveniences and accommodations. Thus the student at St. Edward's enjoys the seclusion so necessary for the successful prosecution of his studies.

Buildings

The Main Building and Holy Cross Hall are both fireproof and thoroughly equipped in accordance with modern improvements. The main building measures 210x85 feet and contains the study hall, class rooms, general dormitories, lavatory, refectories, music rooms, chapel, library, and the private rooms of the faculty.

Holy Cross Hall, located to the west of the main building, contains sixty-two private rooms. It is four stories high, has a frontage of 130 feet and a depth of sixty feet.

Natatorium

The natatorium is a special feature of the College. It adjoins the gymnasium and is connected with it. It is 100 feet long, 40 feet wide and 40 feet high. The swimming pool is 76x34 feet. The bath house proper, situated to the rear of the pool, contains twelve shower baths of the latest and best design. The water is supplied from the College artesian well.

Gymnasium

The gymnasium is large and well equipped. It is 100 feet long, 40 feet wide and 40 feet high, and is furnished with a full set of apparatus. An experienced and competent physical instructor directs and superintends the various classes in gymnastics.

Extensive Grounds

The College grounds are extensive and afford ample space for outdoor sports, so necessary to the health and happiness of young people that are necessarily confined in study hall and class rooms during the greater part of the day. The grounds cover 700 acres of fine farming and pasture land, devoted chiefly to fruit, vegetable and cereal culture, stock raising for home provision, and play grounds for the students.

Artesian Well

The water is supplied from the College artesian well, which, at a great expense, was bored to a depth of 2053 feet. Dr. Edgar Everhart of the University of Texas made a careful analysis of the water and found it to contain only forty-seven one-hundredths of a grain of insoluble residue to the gallon, an ideal drinking water, with qualities superior to most mineral wells in the United States and Europe. The principal chemical constituents are sulphate of soda, chloride of sodium, bicarbonate of soda, carbonate of lime, sulphate of magnesia, and potassium sulphate, with eighty-four one-hundredths of free carbonic acid gas per gallon.

Discipline

The discipline of the school has for its object development of character. The faculty maintain that an education which gives little attention to the development of the moral part of a youth's character is pernicious, and that it is impossible to bring about this development where students are granted absolute relaxation from all faculty government while outside the class room. A young man must learn obedience to law by the actual practice of obedience, not merely by appeals to honor. Moreover, the quiet and concentration of mind that are needed for college work are not obtained except where discipline exists. Although the discipline of the school is mild, yet it is exact. The morals and deportment of the students are carefully watched over, and their comforts and personal habits attended to with the strict care that is customary in all well regulated families. Perfect order, regularity, and gentlemanly conduct are insisted upon everywhere and at all times. The students are kept within the line of duty more by a sense of honor and justice than by fear of punishment.

Military Instruction

Military instruction and training will form part of the regular curriculum at St. Edward's College. Military training is admitted to be of immense benefit to the country, but at the same time it proves to be of great value to the individual student. The drills and exercises are mild forms of physical training which give an erect and graceful carriage and correct bad habits of the body to which students are prone. Their chief value lies in the mental and moral discipline they afford, for, by their practice, the student acquires habits of self-control, respect for authority, and the fitness to exercise them.

Admission

For admission to the College no definite age is required. Students may enter at any time and will be assigned to the classes for which their prior attainment has fitted them and in which they can work to the best advantage. They will, however, find it to their advantage to enter at the beginning of the session when classes are forming. Unless personally known to some member of the faculty, applicants are required to bring letters of recommendation testifying as to their character. Although the College is a strictly Catholic institution, respectable students of any denomination are received and their religious convictions are never tampered with, either directly or indirectly. In proof of this we invite reference to the many non-Catholics that have been educated here.

Expenses

The charge for board and tuition is three hundred dollars per school year; one hundred and eighty-five of which are payable at the opening of the school year, and the remainder January 15. There is a charge of five dollars for student tax, payable each session. For new students there is a matriculation fee of five dollars. Parents and guardians are expected to deposit at the opening of each term a sum sufficient to cover book and stationery expenses. The fee for private room for each student is forty dollars per session.

THE COURSE IN AGRICULTURE

The course in Agriculture is designed to give a thorough training in the theory and practice of modern farming. Instruction is given by text-book, lectures, laboratory practice, and field training. These courses fit the young man for the various agricultural pursuits; poultry raising, vegetable gardening, farming, stock raising, dairying, and horticulture.

Two courses in agriculture are offered—a four-year course and a two-year course. Students whose education is sufficiently advanced will find it possible to complete all the courses in Agriculture in two years following the program outlined on page 7. We recommend the two-year course to those students who cannot afford the time for the longer course.

In the courses due importance is given to the sciences—Physiology, Zoology, Botany, Chemistry, and Physics; while English and History receive their share of attention. Special emphasis is laid upon the courses in Agriculture, considerable time being given to laboratory and field practice.

The College farm is well adapted to Agricultural students. The property comprises seven hundred acres of rich black soil, used principally for farming and pasture land. Fruits, vegetables and other farm crops are its chief product. The dairy herd consists of almost one hundred cattle. The creamery, where special facilities are offered for training in the manufacture and handling of dairy products, is supplied with electrically driven machinery. The laboratories for the various courses are well equipped. Moreover, every opportunity is afforded the student to give special attention to the courses he prefers.

The professor of Agriculture will be assisted by the Extension Department of A. & M. College of Texas, also, of the University of Texas. The State Department of Agriculture of Austin is interested in St. Edward's success in this department and promises to be of assistance to both teacher and student.

STUDIES IN THE AGRICULTURAL COURSE

FIRST YEAR

General Subject	Hours a Week	Special Title	For Description See	
			Page	Course
English	5	Composition	13	A
History	5	Texas	14	A
Language	5	Spanish	14	A
Mathematics	5	Algebra	15	A
Science	5	Physiology; Zoology	16	B
Agriculture	5	Poutry; Vegetable Gardening	10	A

SECOND YEAR

English	5	Adv. Composition	13	B
History	5	Ancient	14	B
Language	5	Spanish	15	B
Mathematics	5	Algebra	15	B
Science	5	Botany	17	E
Agriculture	5	Soils; Farm Crops	10	B

THIRD YEAR

English	5	Rhetoric	13	C
History	5	Medieval and Modern	14	C
Language	5	Spanish	15	C
Mathematics	5	Plane Geometry	15	C
Science	5	Chemistry	16	C
Agriculture	5	Animal Husbandry; Dairying	10	C

FOURTH YEAR

English	5	Literature	13	D
History	5	American	14	D
Language	5	Spanish	15	D
Science	5	Physics	17	D
Agriculture	5	Horticulture; Agricultural Engineering	11	D

STUDIES IN THE TWO-YEAR AGRICULTURAL COURSE.

FIRST YEAR

General Subject	Hours a Week	Special Title	For Description See	
			Page	Course
English	5	Rhetoric	13	C
Language	5	Spanish	15	C
Mathematics	5	Plane Geometry	15	C
Science	5	Botany	17	E
Science	5	Chemistry	16	C
Agriculture	5	Poultry; Vegetable Garden'g	10	A
Agriculture	5	Animal Husbandry; Dairying	10	C

SECOND YEAR

General Subject	Hours a Week	Special Title	Page	Course
English	5	Literature	13	D
Language	5	Spanish	15	D
Science	5	Physics	17	D
Agriculture	5	Soils; Farm Crops	10	B
Agriculture	5	Horticulture; Agricultural Engineering	11	D

THE COURSES IN APPLIED ELECTRICITY AND MECHANICS

Two special courses in Engineering are offered—a course in Applied Mechanical Engineering and a course in Applied Electrical Engineering. Skill in designing, constructing, and operating mechanical and electrical machinery and appliances is the object of these courses. The courses are intended to develop well-skilled mechanics and well-drilled electricians. The theory underlying the various subjects is first clearly presented to the student in the class room and then fixed firmly in his mind by practical work in the laboratory shop, drafting room, and in trips to various plants and shops in neighboring cities. The students thus become familiar with the practical application of the principles laid down in the text-book and lectures. The students, moreover, have access to the plants of the College—the steam plant, water plant, electric plant, refrigerating plant, and laundry. They have an opportunity to take part in construction and repair work about the College.

The shops are furnished with the best modern tools and machinery for working wood and iron. The woodworking room contains working benches, with separate sets of hand tools for each student; also turning lathes, circular saw, band saw, large planer, wood trimmer, miter box, grindstone, and a full outfit of small tools ordinarily used in woodworking.

The machine shop is equipped with standard machines of the best design and construction. The equipment consists of engine lathes, a large shaper, drill press, sensitive drill, emery grinder and an assortment of reamers, drills, taps, wrenches, etc., and the hand tools necessary for the complete equipment of a modern machine shop. Each student has his own working bench, bench vise, and tools.

The forge room contains forges fitted with power blast and exhaust, anvil, and a complete set of smithing tools. A seven and one-half horse power motor of the latest and best design furnishes the necessary power.

STUDIES IN APPLIED ELECTRICITY AND MECHANICS

FIRST YEAR

General Subject	Hours a Week	Special Title	For Description See Page	For Description See Course
English	5	Composition	13	A
English	5	Texas	14	A
Language	5	Spanish	14	A
Mathematics	5	Algebra	15	A
Science	5	Physiology; Zoology	16	B

SECOND YEAR

General Subject	Hours a Week	Special Title	Page	Course
English	5	Adv. Composition	13	B
History	5	Ancient	14	B
Language	5	Spanish	15	B
Mathematics	5	Algebra	15	B
Mathematics	5	Plane Geometry	15	C
Drawing	5	El. Mechanical	11	A

THIRD YEAR

General Subject	Hours a Week	Special Title	Page	Course
English	5	Rhetoric	13	C
Mathematics	5	Solid Geometry; Trigonometry	15	D
Science	5	Chemistry	16	C
Drawing	5	Mechanical	11	B
Shopwork	5	Woodwork	17	A
Engineering	5	Mechanical or Electrical	12	A or C

FOURTH YEAR

General Subject	Hours a Week	Special Title	Page	Course
Mathematics	5	Special	16	E
Science	5	Physics	17	D
Drawing	5	Machine Design	11	C
Shopwork	5	Iron Work	17	B
Engineering	5	Mechanical or Electrical	12	B or D

COURSES OF INSTRUCTION

In the description of the courses of instruction an hour means forty-five to sixty minutes in the recitation room. Unless otherwise indicated the recitations are five one-hour periods per week for one school year.

AGRICULTURE

A.

Poultry—(First Session)—This course includes the study of the characteristics of some of the leading breeds, also of the feed, care, and management of fowls for eggs and market; planning and arranging poultry houses; diseases and parasites and their treatment; artificial incubation and brooding and methods of preserving eggs; laboratory work in connection with same. Text books: Lewis' Poultry Keeping.

Vegetable Gardening.—(Second Session)—The work consists of lectures and laboratory practice in vegetable growing. The student is expected to keep notes on all work, and practice in the hot-beds and garden is given. Text-book: Green's Vegetable Gardening.

B.

Soils—(First Session)—A study of the properties of soils and their relation to tillage and cultural methods. Field and laboratory experiments. Text-book: Whitson and Walsted's Soils and Soil Fertility.

Farm Crops—(Second Session)—This course includes a study of the production, harvesting and storing of field crops. Laboratory work and field practice. Text-book: Livingston's Field Crop Production.

C.

General Animal Husbandry—(First Session)—A study of the types, breeding, rearing, and feeding, and management of live stock. Text-book: Harper's Animal Husbandry for Schools.

Dairying—(Second Session)—Study of dairy breeds, factors governing milk production, care of milk, creaming, separating, testing, and manufacture of creamery products. Text-book: Eckles and Warren's Dairy Farming.

D.

Horticulture—Including Plant Propagation, Fruit Production, and Improvement of the Home Grounds. Text-book: Green's Popular Fruit Growing.

Agricultural Engineering and Farm Management—(Second Session)—Text-book: Davidson's Agricultural Engineering, and Boss' Farm Management.

DRAWING

A.

Elementary Mechanical Drawing.—A thorough and practical drill in the elements of mechanical drawing. The work includes lettering, sketching, geometrical problems, development of surfaces, intersection of surfaces, etc.

B.

Mechanical Drawing.—Drawings from geometrical objects, also from simple mechanical objects, as fly-wheels, gears, levers, and machine parts. The final work consists of freehand sketches of complete machines. Then follows a course in drawing with principles of projection. Exercises from text-book covering working drawings, line-shading, tracing, blue-printing, etc.

C.

Machine Design.—General draughting room practice covering form and strength of machine parts and computation of dimensions.

ENGINEERING

A.

Electrical Engineering, Applied Electricity.—A course of lectures and recitations, supplemented by laboratory practice, on the general theory of electricity and magnetism and its application to practical work, as follows: Setting up and testing primary and secondary batteries, system of call bells, electric and gas lighting appliances, fire and burglar alarms, telegraph and telephone lines, switchboards and accessories. Experiments with induction coils, magnets, switches, voltmeters, ammeters, wheatstone bridges, galvanometers and other measuring instruments. The study of direct current generators and motors, arc and incandescent lighting systems, street railway machinery and appliances, storage battery and windings, calculations for efficiency power and power transmission.

B.

Electrical Engineering, Alternating Currents.—Principles of the alternating current, circuit, inductance, self-induction; study of alternating current machines; use of measuring instruments; calculation of power; power transmission and efficiency.

C.

Mechanical Engineering, Engines.—A study of the different types of gas engines and explosive motors, also of the construction of gas, oil, and vapor engines, together with their adaptation to various uses.

D.

Mechanical Engineering.—A course of study of steam boilers, steam engines, and turbines, designed to familiarize the student with the different types in use and their respective merits. Also a study of auxiliary units as steam power pumps, feed water heater, economizer, vacuum pumps, etc.

ENGLISH

A.

Elements of English Composition. Grammar reviewed. Composition on familiar subjects which are corrected in class. Compositions after models. The elements of versification. Scansion. Memory work.

Four classics are read and studied in class. Four other classics are read and studied, under the direction of the instructor outside of class.

B.

Advanced Course in Composition, with daily exercises in paragraph and theme writing in class. Two themes a week on subjects assigned or selected. The simpler verse forms. Weekly exercises. Memory work.

Four classics are read and studied in class. Four other classics are read and studied, under the direction of the instructor outside of class.

C.

Elementary Course in Rhetoric with daily exercises in class. Weekly themes carefully prepared. Composition work illustrating Description, Narration, Exposition, Argumentation. Verse forms continued. Memory work.

Four classics are read and studied in class. Four other classics are read and studied, under the direction of the instructor outside of class.

D.

Literature. Study of British Authors. Study of American Authors. Essay and composition work. Verse forms. Weekly exercises. Memory Work. Text-book: Long's English Literature.

Works read and studied: Hamlet, Tempest, King Lear, Sesame and Lillies, Essay on Milton and Addison. Selections from Burns, Keats, Byron, Tennyson, Henry Esmond. Writings of authors whose works and life are studied in the class. Short Stories.

HISTORY

A.

Texas History.—Spanish, French and English claims, possessions and settlements. Acquaintance and Colonization by Americans. Texas Revolution. Republic of Texas. Civil War and Reconstruction. Terrell Election Law. Material Development. Education and Public Charities. Text-book: Barker, Potts and Ramsdell.

B.

Ancient History.—The Oriental Nations. Hellas. Rome. Germanic Invasions. Growth of Papal Power, of Frankish Power. Text-book: Botsford.

C.

Medieval and Modern History.—Empire of Charlemagne. Feudal Systems. The Medieval Church. Empire and Papacy. The Crusades. Renaissance and Reformation. The French Revolution. The Napoleonic Empire. The Age of Progress. Text-book: Harding.

D.

American History.—New World. The English Colonies. Separation of the Colonies from England. The New Republic. National versus Sectional Interests. Slavery and the West. The Crises of Disunion. Secession. Civil War. The Era of Reconstruction. The Political and Industrial History of the Republc Since the Civil War. Present-Day Problems. Text-book: Muzzey.

LANGUAGE

Spanish

A.

General Outlines of grammar with compositions. Loiseux's *Grammar Complete*. Translation of easy tales and select fables.

B.

Grammar, advanced course: Hill's and Ford's *Spanish Grammar.* Translation of Spanish prose and poetry with compositions on assigned subjects.

C.

Grammar, finished and reviewed. Readings from Spanish classics. Cervantes, Calderon, Lopez de Vega. History of Spanish literature, with essays in Spanish.

D.

Modern Spanish Literature.—Readings, composition and conversation. The Spanish Drama. Study of Selected Classic Plays.

MATHEMATICS

A.

Algebra.—Wells' Text-book of Algebra: Fundamental Operations; Factors; Common Factors and Multiples; Fractions; Fractional Equations; Simultaneous Equations; Inequalities; Involution and Evolution.

B.

Algebra.—Wells' Text-book of Algebra; Quadratic Equations, Pure, Affected, and Simultaneous; Ratio and Proportion; the Progressions; Binomial Theorem; and Logarithms.

C.

Plane Geometry.—Study of theorems with proofs of exercises and original propositions. Text-book: Wells' Essentials of Plane Geometry.

D.

Solid Geometry—(First Session)—Planes, solid angles, polyhedrons ,the cylinder, cone and sphere are all studied in detail. The solution of original exercises and propositions.

Trigonometry—(Second Session)—The work done is the equivalent of that in most of the elementary text-books. Special attention is given to Goniometry. Examples of a concrete nature are abundantly supplied.

E.

Special Mathematics.—The aim of this course is to apply the principles of Algebra, Geometry and Trigonometry to engineering problems. It includes a short review of these subjects, elements of Analytical Geometry and Calculus, elementary problems in mechanics, use of the slide rule, care of data obtained in the laboratories and workshop, use of co-ordinate paper to show results of tests graphically.

SCIENCE

A.

General Science.—Outlines of General Science as given in Snyder's First Year Science.

B.

Physiology—(First Session)—Lectures, recitations, and demonstrations. Study of the human skeleton, including the physiology and hygiene of the bones. The action, relation, structure and hygiene of muscles. The digestive, circulatory and excretory systems demonstrated by models and charts. The anatomy and structure of the nervous system and simple experiments on the same. Text-book: Martin's *Human Body.*

Zoology—(Second Session)—The aim of this course is to create an interest in nature and to foster an acquaintance with the lives, habits, and activities of animals. Considerable attention is given to natural history, comparative anatomy, and physiology of the representative forms in the different groups of the animal kingdom.

C.

Chemistry.—An introductory course of experimental lectures on familiar subjects leading up to discussions of the more important elements and their properties, and the fundamental laws and phenomena of chemistry. Text-book: Newell's *Descriptive Chemistry.*

A series of exercises to be performed by each student, and having as their main object the cultivation of the student's powers of observation and faculty of inductive reasoning. These exercises comprise a study of the principal metallic elements, including their preparation, properties and more familiar compounds. The directions for each experiment are made as brief as possible; the observation of facts and the drawing of correct conclusions therefrom being left, so far as the nature of the experiment will permit, to the student.

D.

Physics.—Instruction in elementary physics is given by lectures and recitations in which the general laws of mechanics, heat, sound, light, electricity and magnetism are presented. The laboratory work of this course consists of a series of experiments which verify and apply practically the fundamental principles of physics.

E.

Botany.—The course in Elementary Botany covers the following: Structure and Physiology of Seed Plants; Seeds and Seedlings; Roots, Stems, Buds, Leaves, and Fruits in their Natural Environment and in the Laboratory; Organization and Development of the Cell; Evolution in the Plant Kingdom; Effect of Soil, Climate and Other External Conditions upon the Form, Structure and Habits of Plants.

SHOP WORK

A.

Bench work in wood, comprising use of saw, plane, and chisel, followed by easy exercises in spliced joints and elementary patterns; use of the turning lathe with series of exercises, general pattern-making, core boxes and general carpentry.

(Nine hours a week for one year.)

B.

Forging, consisting of exercises in shaping, welding, hardening, and tempering. Bench work, including chipping, filing, riveting, scraping, polishing. Accurate work on the lathe, drill and shaper, leading up to construction of machine parts and complete machines.

(Twelve hours a week for one year.)

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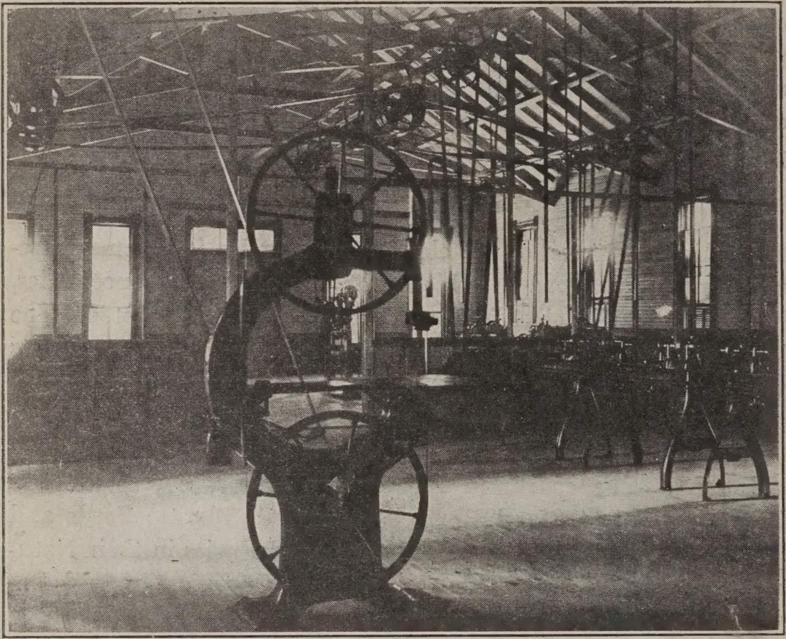

A View of the Shops

Our general catalogue gives a full description of the courses of study and of student life at St. Edward's. Send for it, or, if possible, make a personal visit to the college—see what we have—see what we do.

For catalogue and further information, address,

EMIEL F. DeWULF, C. S. C., President,
Austin, Texas.